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ABSTRACT

As a part of the initial verification of the Concerns-Based Adoption Model, a two year cross-sectional/longitudinal study of the concerns of elementary school teachers about team teaching and college faculty concerns about instructional modules was conducted. The Stages of Concern About the Innovation Questionnaire was developed and administered to two samples, stratified according to years of experience with each of the innovations. Focus of the study was on the concerns of nonusers and users of innovations as they shift from initial unconcern about the innovation, to intense self concerns, to intense task concerns, and to intense impact concerns about the innovation. Participants included 453 elementary school teachers dealing with the innovation of team teaching, and 433 professors at different colleges and universities dealing with the innovation of instructional modules. Samples were selected to include individuals representing all stages of concern from nonusers to those with two or more years of experience with the innovation. A description is given of each of the seven stages of concern and graphs depict the varying degrees of concern indicated by the participants over the two year period. An analysis of the changes in concerns is presented and the implications of the findings are discussed as they relate to initiating and implementing educational innovations. (JD)

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LONGITUDINAL AND CROSS-SECTIONAL STUDIES OF THE CONCERNS OF USERS OF TEAM TEACHING IN THE ELEMENTARY SCHOOL AND INSTRUCTIONAL MODULES AT THE COLLEGE LEVEL

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Procedures for Adopting Educational Innovations Project
Research and Development Center for Teacher Education
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As a part of the research of the Procedures for Adopting Educational Innovations Project, the "concerns" innovation users have about an innovation is being investigated. The hypothesis that innovation users have distinguishable concerns about an innovation grew out of the research of Frances Fuller (1969) and the field experiences of change agents. As one key dimension of the Concerns-Based Adoption Model (Hall, Wallace & Dossett, 1973), it was proposed that the concerns that innovation users have would move through "stages"as the user became increasingly sophisticated and experienced in using the innovation. Seven Stages of Concern About the Innovation (SoC) were hypothesized.

As Fuller found with preservice and inservice teachers, the experience of change agents suggested that the concerns of nonusers and users of innovations appeared to shift from initial unconcern about the innovation to having intense self concerns, to having intense task concerns, to having intense impact concerns about the innovation. Although the types of concerns were hypothesized to be somewhat different with innovation users than Fuller found for teachers'

concerns about their teaching, the same general development from self to task to impact concerns was hypothesized.

One of the principal work components of the PAEI Project during the last two and one half years has been targeted toward initially verifying the existence of Stages of Concern About the Innovation as proposed in the CBAM. The research has centered around three reserach questions:

1. Do identifiable Stages of Concern About the Innovation exist?
2. Are Stages of Concern About the Innovation developmental?
3. How do Stages of Concern About the Innovation relate to other variables?

The data to be discussed here are focused on questions 1 and 2 with limited reference to question 3. Future papers will focus more on these questions.

Stages of Concern About the Innovation

Seven Stages of Concern About the Innovation (SoC) were hypothesized to exist. These Stages of Concern as presently defined are presented in Figure 1. Stage 2 Personal can be equated with Fuller's self concerns, Stage 3 Management with task concerns, and Stages 4 Consequence, 5 Collaboration and 6 Refocusing with different kinds of impact concerns.

Stage 1 Informational concerns were hypothesized as an important class of concerns for nonusers of an innovation. High Stage 1 concerns are indicative of concern about having more general descriptive information about the innovation. Stage 1 concerns do not have a self-concern emphasis. The self concern component is represented in the Stage 2 Personal concerns. The Stage 1 concerns indicate more of an objective, non-egocentric interest in information.

It was hypothesized that nonusers of an innovation will have relatively more intense Stage 0, 1 and 2 concerns with low intensity Stage 4, 5 and 6 concerns. As use of an innovation begins, Stage 3 Management concerns would

Figure 1

STAGES OF CONCERN ABOUT THE INNOVATION*

0 *AWARENESS:* Little concern about or involvement with the innovation is indicated.

1 *INFORMATIONAL:* A general awareness of the innovation and interest in learning more detail about it is indicated. The person seems to be unworried about himself/herself in relation to the innovation. She/he is interested in substantive aspects of the innovation in a selfless manner such as general characteristics, effects, and requirements for use.

2 *PERSONAL:* Individual is uncertain about the demands of the innovation, his/her inadequacy to meet those demands, and his/her role with the innovation. This includes analysis of his/her role in relation to the reward structure of the organization, decision making and consideration of potential conflicts with existing structures or personal commitment. Financial or status implications of the program for self and colleagues may also be reflected.

3 *MANAGEMENT:* Attention is focused on the processes and tasks of using the innovation and the best use of information and resources. Issues related to efficiency, organizing, managing, scheduling, and time demands are utmost.

4 *CONSEQUENCE:* Attention focuses on impact of the innovation on students in his/her immediate sphere of influence. The focus is on relevance of the innovation for students, evaluation of student outcomes, including performance and competencies, and changes needed to increase student outcomes.

5 *COLLABORATION:* The focus is on coordination and cooperation with others regarding use of the innovation.

6 *REFOCUSING:* The focus is on exploration of more universal benefits from the innovation, including the possibility of major changes or replacement with a more powerful alternative. Individual has definite ideas about alternatives to the proposed or existing form of the innovation.

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*Original concept from Hall, G. E., Wallace, R. C., Jr., & Dossett, W. A. A developmental conceptualization of the adoption process within educational institutions. Austin: Research and Development Center for Teacher Education, The University of Texas, 1973.

become most intense, with Stages 0, 1 and 2 concern decreasing in intensity, while Stages 4, 5 and 6 concerns gradually increase in intensity. With experience and increased sophistication in use, it was hypothesized that Stage 4, 5 and 6 concerns would become increasingly intense and Stage 0, 1, 2 and 3 concerns would continue to decrease in intensity. Figure 2 is a graphic representation of the ideal evolution of the intensity of the Stages of Concern About the Innovation.

The Studies

The many variables that can affect the intensity of concern were not the primary consideration for the past two years of research. Rather, the focus has been on attempting to develop a measure to demonstrate that SoC existed (see A. George's paper) and to see if "developmental" changes in concerns would occur with increased experience with the innovation.

The single most important criterion for selecting the members of the sample was the amount of experience an individual had with the innovation. It was hypothesized that having a stratified sample according to years of experience with the innovation would provide the best sampling variable so that the sample would include individuals representing all possible stages of concern. Therefore, the samples were selected to have a group of nonusers of the innovation and groups with one, two, three or four or more years of experience with the innovation.

In order to make the studies generalizable, a large N was desired and also contrasting innovations. The two samples that will be reported on here consist of elementary school teachers with the innovation being team teaching and college professors with the innovation being instructional modules. In the total study, 453 teachers in schools in Texas, Nebraska and Massachusetts and 433

professors at different colleges and universities were included in the study.

The design of the study was first a cross-sectional study according to years of experience with the innovation. SoC data were collected in the Fall of '74 for this study. The studies were formed into a longitudinal study by collecting SoC data from the same sample in the spring of '75. The total sample was arbitrarily cut roughly in half and SoC data again collected in the Fall of '75 and the Spring of '76. Out of the total sample from both studies across the two years, 279 individuals (teaming, modules) had complete and useable SoC data from all four data collection periods.

The Measure

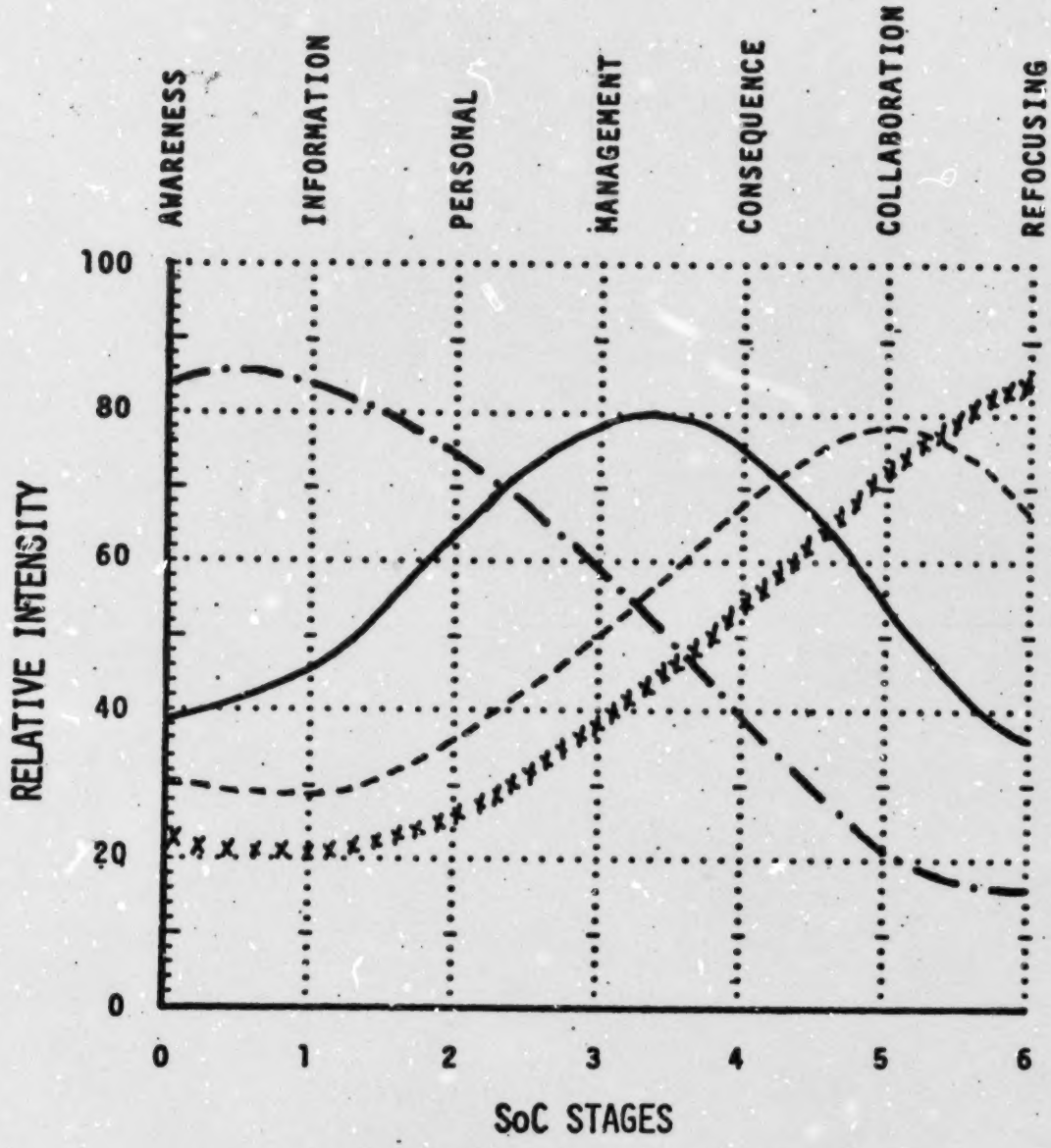
The Stage of Concern About the Innovation Questionnaire which A. George reported on was developed for and used in these studies. The SoCQ was developed to measure the seven hypothesized Stages of Concern About the Innovation. The measure consists of 35 items, each of which has a Likert scale on which respondents indicate their present degree of concern about the topic described in the item. There are five items for each Stage of Concern.

A reliability study of the SoC Checklist involving a total of 132 professors and classroom teachers was conducted in September 1974. The raw score test-retest correlations ranged from a low of .65 to a high of .86 on the seven SoC factors, and the internal consistency (alpha coefficients) of the factors ranged from .80 to .93. The alpha coefficient for the total score was .96.

The SoC Questionnaire data is scored using a percentile table and SoC concerns profiles developed. The profiles reflect the relative intensity of each Stage of Concern and present a general picture of the concerns of the individual or group of respondents. Following processing, in-depth clinical interpretation of the SoC Questionnaire data and profile is possible. A users'

Figure 2

Ideal Evolution of the Intensity of the Stages of Concern About the Innovation



manual is presently under development that describes the measure, scoring procedure and interpretation process.

Findings

Cross-Sectional Samples

During the fall of 1974, a total of 411 public school teachers from three states completed the SoC Checklist in relation to the innovation of teaming. The teachers represented a stratified sample according to their years of experience with teaming. The teachers sampled were in one of five groups: (0) no experience with teaming; (1) first year of teaming; (2) second year of teaming; (3) third year of teaming; or (4) fourth or later year of experience with teaming.

The resultant data are displayed in Figure 3. As had been hypothesized, the "nonusers" of teaming were most intensely concerned on Stages 0, 1 and 2 and least intensely concerned on Stages 4, 5 and 6. This nonuser concerns profile has since been found with other innovations and samples.

The sample of teachers that were in the first year of teaming had their most intense concerns on Stage 3 Management. Again according to the hypothesized movement of concerns, the data are consistent. However, the movement to more intense Stage 4, 5 and 6 concerns does not occur with those teachers who had had more years of experience with the innovation of teaming.

We have hypothesized that this lack of movement to higher stage concerns for the sample as a whole is due to the complexity of the innovation. Teaming is a group adopted innovation and very little support or training is normally provided to teachers to facilitate this movement. For teachers using the discovery approach to implement teaming, it takes an unusually long period of time to master. SoC data from individual schools and individual teachers

can and do reflect more intense Stage 4, 5 and 6 concerns. This fall '74 cross-sectional teaming data with individual case examples is described in more detail in another reference (Hall and Rutherford, 1976).

During the fall of 1974 a cross-sectional sample of college professors were also asked to complete the SoC Questionnaire. For them, the innovation was instructional modules and again, the cross-sectional sample consisted of those who had either 0, 1, 2, 3 or, 4 or more years of experience with instructional modules. These data are displayed in Figure 4.

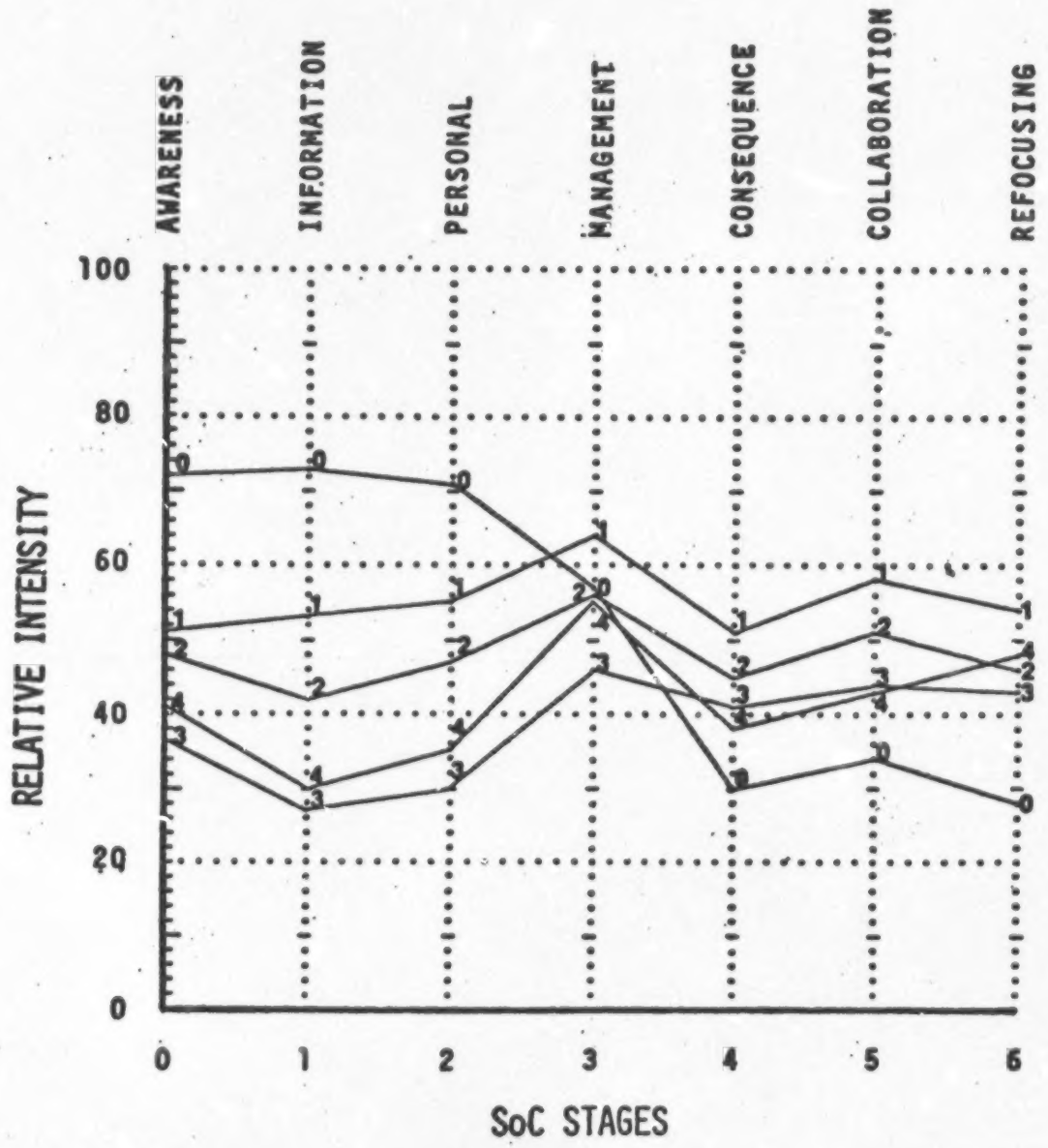
As with the teaming data, the nonusers of instructional modules reflected the typical nonusers concerns profile, most intense Stage 0, 1 and 2 concerns and least intense Stage 3, 4, 5 and 6 concerns. In contrast with the teaming data, the module data reflects relatively intense Stage 4, 5 and 6 concerns for all users of instructional modules. Either module users do not have intense management concerns at some time or in this sampling design these were missed.

The latter explanation is the interpretation we give most credence. Modules are much more easily adopted than is teaming and modules can be adopted by individuals without a lot of outside support. Therefore, we suspect that module users would be able to quickly resolve their management concerns.

A methodological-tactical error further complicated sampling transcient Stage 3 Management concerns of module users. On the demographic page of the SoC Questionnaires the respondent was asked to report "years" of experience with instructional modules. Years of experience needs to be contrasted with the concept of cycles of use of the innovation. It would normally take an entire school year to complete one cycle of use for teaming. However, with modules a professor would complete a cycle of use in one semester. Thus, in one full year, including two summer sessions, a professor could conceiveably use a module through four cycles. In terms of cycles of use it is reasonable

Figure 3

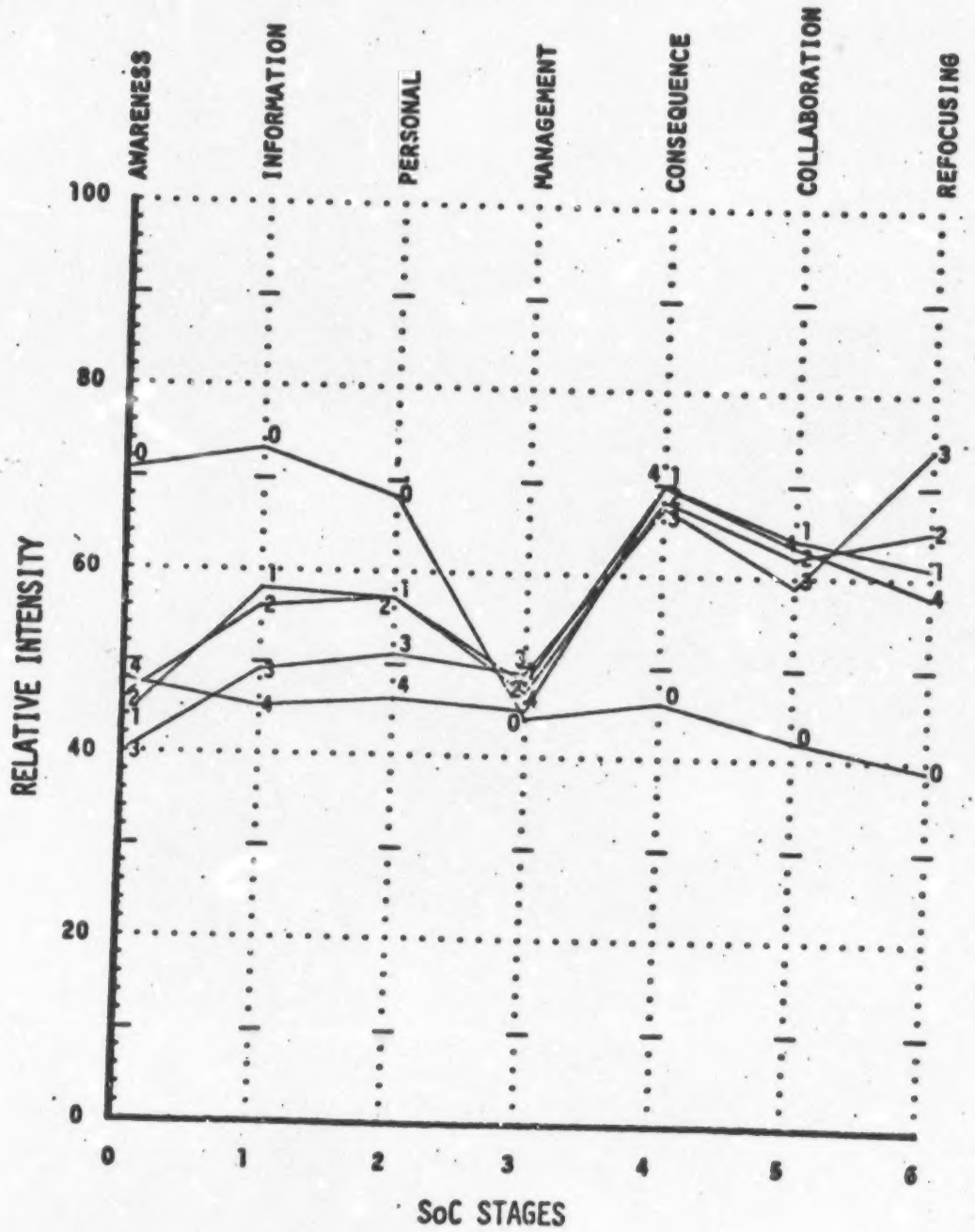
Distribution of Teachers' Concerns About Teaming
According to Years of Experience with Teaming



0 = no experience with teaming	N = 46
1 = first year of teaming	N = 76
2 = second year of teaming	N = 18
3 = third year of teaming	N = 60
4 = fourth or later year of teaming	N = 107

Figure 4

Cross-Sectional Sampling of Professor's Concerns
About Instructional Modules



to expect that management concerns would be fairly well resolved by the end of the second or third cycle.

Changes in SoC Overtime

The two year data collection during which SoC data were collected fall and spring offers another test of the hypothesized movement of concerns across the stages. It was hypothesized that the most intense stages of concern would shift from lower to higher stages during the two years.

For the sample as a whole, profound shifts in concerns did not occur. However, at the smaller units of analysis, level shifts in concerns in directions that make sense did occur. Not all of the shifts were in the direction of higher concerns however.

Using the school as the unit of analysis provided further insight. Figure 5 is a presentation of the concerns profile of one small school with the innovation of teaming. As was documented through the Levels of Use assessment (see attached Loucks paper), the teachers moved from nonuse to Mechanical use and onto a Routine use of teaming during the two years of study. As was hypothesized, their concerns profiles shifted in the predicted directions. Stages 0, 1 and 2 were initially high and decreased in intensity over time. Stage 3 Management concerns increased during the fall of 1975 and then decreased with Stage 2, 3 and 5 concerns being relatively intense during the spring of 1976. During the two years of the study, concerns shifted in relative intensity as was predicted.

No other of the 39 schools in the study illustrated the hypothesized movement as obviously. Apparently, the school described here just happened to be at the right movement in adopting the innovation of teaming, had an interested faculty, and an exceptionally skilled instructional leader in the

principal.

In other schools, little or no change in concerns about teaming were observed during the two years of the study. In many schools documented "interventions" or changes in conditions resulted in changes in concerns that were understandable, but not in the hypothesized directions.

For example, the concerns data displayed in Figure 6 is of a faculty where teaming was not being implemented. The concerns profiles are those of nonusers. With repeated testing in the spring and fall of 1975, Stage 1 and 2 scores continued to decrease. Apparently the respondents interpreted our initial appearance with higher "What is coming?" and "What does it mean for me?" concerns. As nothing happened, their Information and Personal concerns gradually decreased.

Then, just before the spring '76 data collection an intervention was made by the school system. Without warning, the week before data collection it was announced that the principal was being moved to another school and the new principal for this school was not identified. Stage 1 and Stage 2 concerns shot up again.

Using the individual as the unit of analysis offers other interesting cases for discussion. Figure 7 are the fall '74 and spring '75 concerns for a team leader. This person was an experienced team leader and began the year with appropriately high Stage 5 Collaboration conerns. However, as both the team leader and principal have shared with us, the school year was extremely rough and trying for the team leader. A new member to the team had not worked out and had made things difficult for the team leader. The team member left at the end of the year. The consequences for the team leader were high Stage 2 Personal concerns and low Stage 5 Collaboration concerns about teaming by the spring of '75.

Figure 5

Two Year Movement of Teacher's Concerns
About Teaming in One Small School

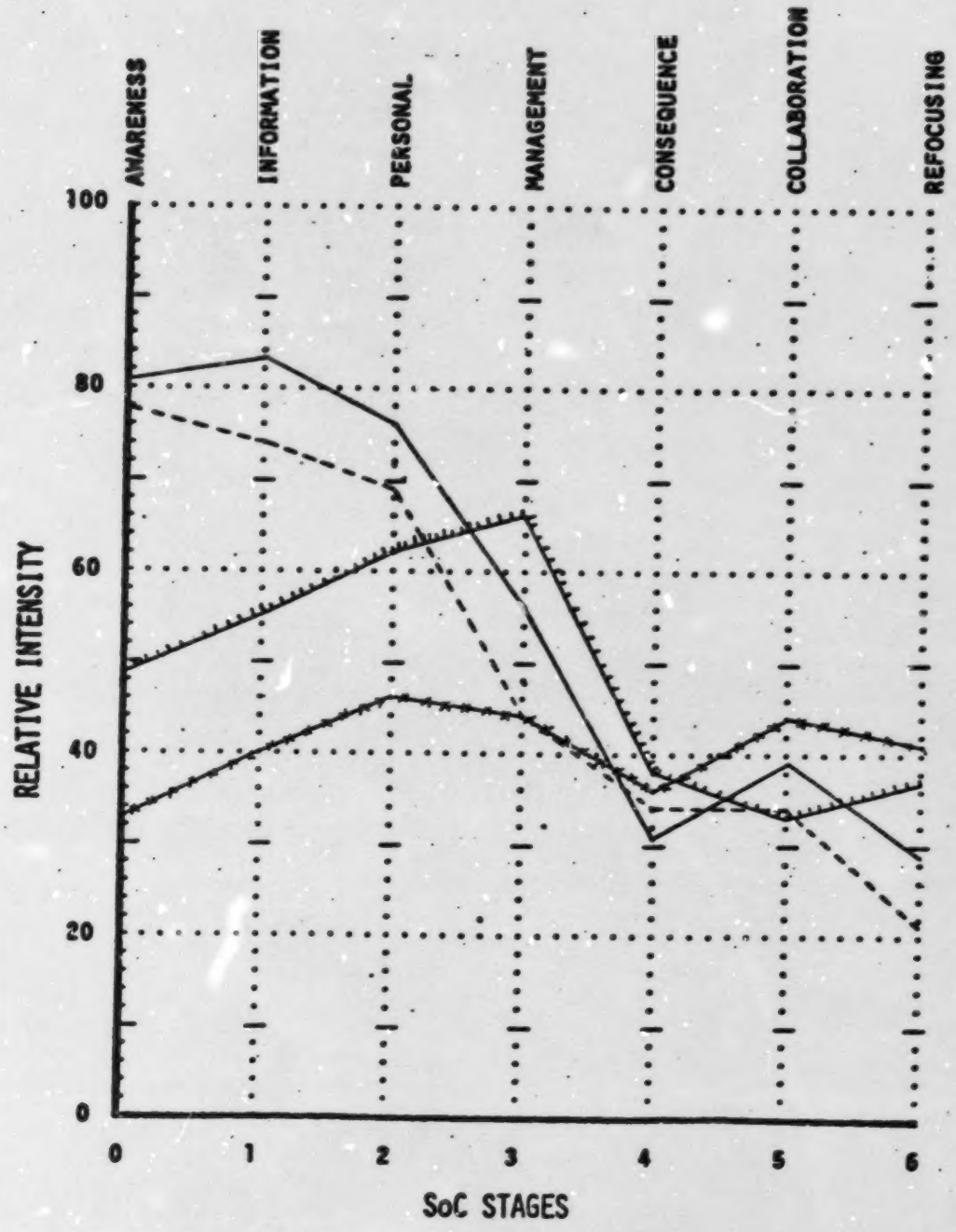


Figure 6

Changes in Teacher's Concerns
About Teaming During a Two Year Period

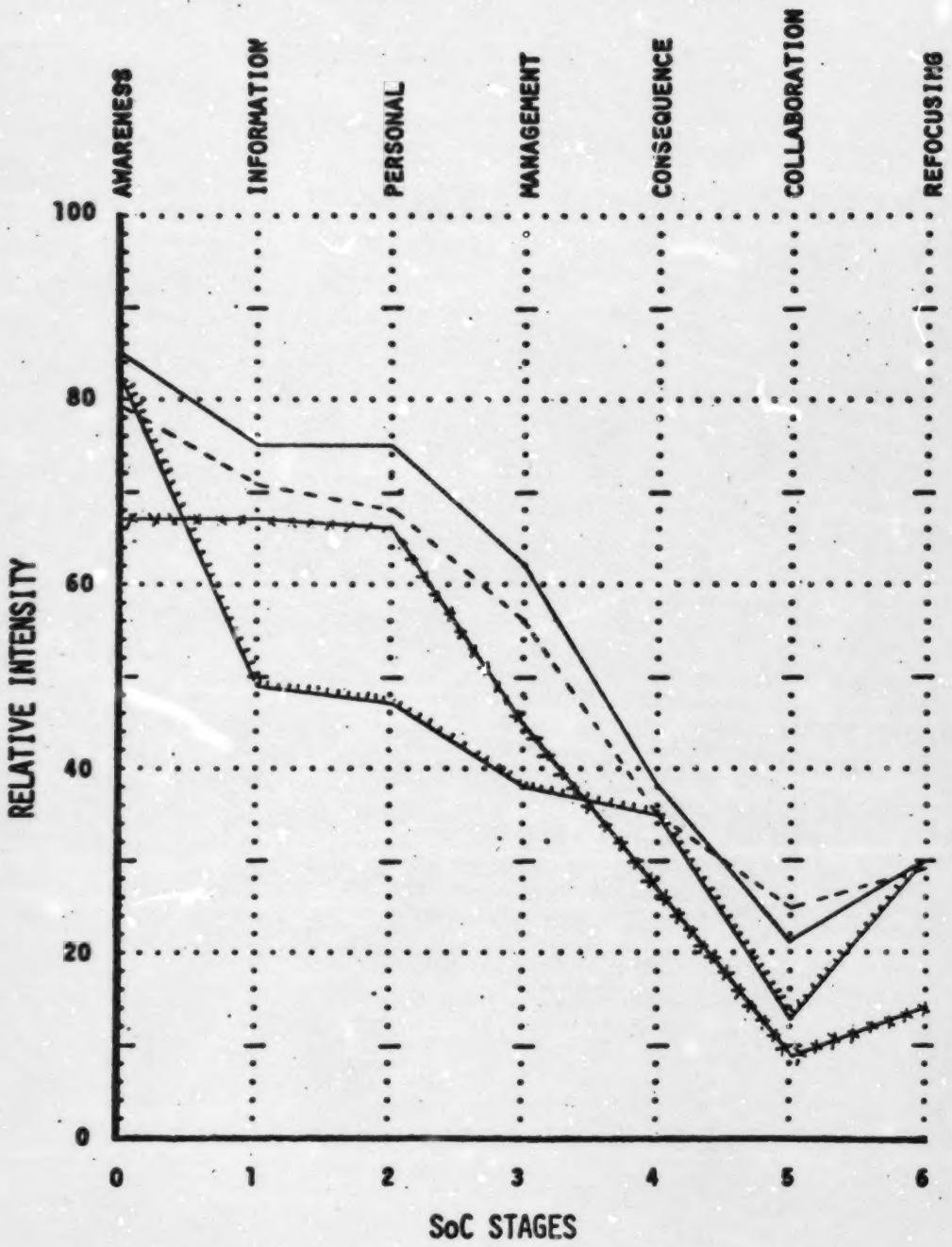
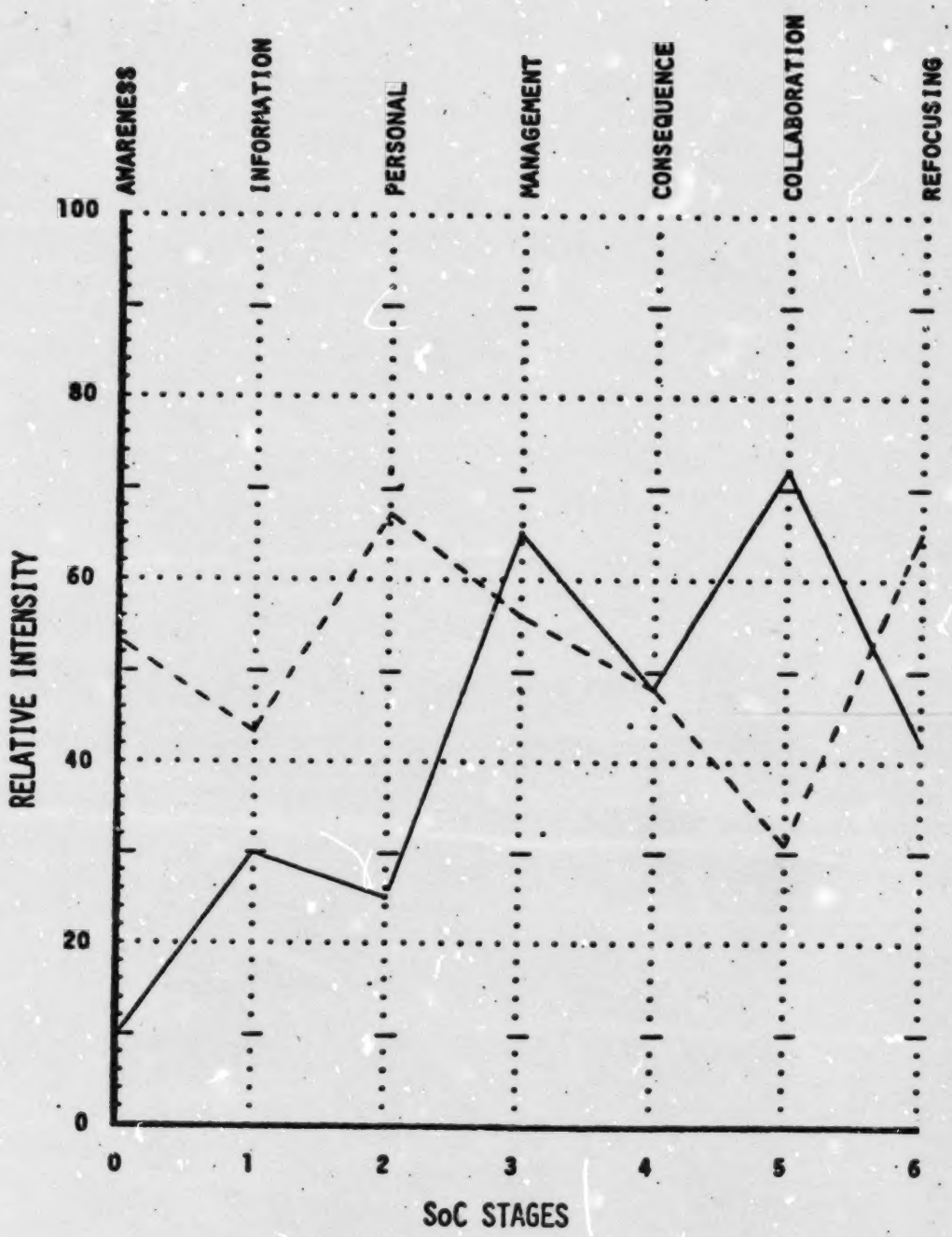


Figure 7

Team Leaders' Concerns During One School Year



Discussion

As a part of initial verification of the Concerns-Based Adoption Model, a two year cross-sectional/longitudinal study of the concerns of elementary school teachers about teaming and college faculty about instructional modules was conducted. The Stages of Concern About the Innovation Questionnaire was developed and administered to two samples, stratified according to years of experience with either the innovation of team teaching or instructional modules during the fall '74, spring '75, fall '75 and spring '76. These data confirm the hypothesized existence of identifiable stages of concern about the innovation. These data also support the hypothesis that developmental movement from intense Stage 1 and 2 concerns to intense higher stages of concern is possible.

However, movement in concerns is heavily influenced by interventions and conditions that may or may not be directly associated with the innovation. The complexity of the innovation, support for the adoption, and colleagues who are involved all seem to be relevant variables that need to be taken into account in interpreting longitudinal SoC data. Developing further understanding of the change process through analysis and study of interventions is one of the basic thrusts of the ongoing CBAM research.

One important implication of the SoC data reported in this paper can be drawn from the typical nonuser concerns profile. Nonusers tend to have relatively more intense Informational and Personal concerns with the various types of impact concerns being much lower in intensity. One hypothesis that needs to be tested based on these data is that managers of the change process need to heed much more than they do the personal concerns of people involved in change and design the initial implementation phases accordingly. Simply telling teachers that they should begin teaming because it is good for kids is probably not the best beginning.

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